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ABSTRACT

Most economists agree that the difficulties of targeting minimum wage increases to low-income families make such increases ineffective tools for reducing poverty. This paper provides estimates of the impact of minimum wage increases on the poverty gap and the number of poor families, and shows which factors are barriers to decreasing poverty through minimum wage increases. A model was developed for simulating the poverty reducing effects of minimum wage increases using wage, employment, hours, and poverty status data from the March 1987 Current Population Survey. Findings indicate that an increase of the minimum wage to $4.35 per hour has a much larger poverty reducing effect than previous research suggests. If accompanied by full coverage and compliance, such an increase would reduce the poverty gap by 13 percent, and the number of poor families with low-wage workers would decrease by nine percent. However, the resulting unemployment of some workers could reduce the poverty-reducing effects. Ten tables of statistical data are included. The appendix contains two additional tables showing a sensitivity analysis of the effects of changes in the minimum wage, with full coverage and compliance, and with the coverage and compliance unchanged. (FMW)

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CHANGING DOMESTIC PRIORITIES

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MINIMUM WAGE INCREASES AND THE WORKING POOR

by

Ronald B. Mincy*

May 2, 1988

...ute and The University of Delaware

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I thank Susan Weiner for running the simulations and formulating the tables on which this paper is based. Helpful comments by Wayne Vroman, Charles Link, and members of the CDP research staff are also gratefully acknowledged.

The chapter is the product of a series of studies under the Changing Domestic Priorities project which has examined shifts taking place in the nation's economic and social policies under the Reagan Administration and is now focusing on the major domestic problems facing the nation over the next decade. Funding for this paper was provided by the Rockefeller Foundation.

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SECTION I: INTRODUCTION

Even before the 1977 Amendments to the Fair Labor Standards Act Gramlich [1974] and Kelly [1976] showed that the linkage between low wages and low family income was weak. On the basis of these and more recent results (see Bell [1979], Kohen and Gilroy [1981], and Burkhauser and Finegan [1987]), most economists agree that the difficulties of targeting minimum wage increases to low-income families make such increases extremely ineffective tools for reducing poverty. Despite these findings, the inflation of poverty standards since 1981, the last year that the minimum wage was increased, and the increase in the working poor (see Smith and Vavrichek [1987] and Shapiro [1987]) has prompted many to urge that minimum wage increases are needed to reduce poverty.

The low correlation between family income and wages makes the spillover effects of minimum wage increases undeniable. However, the effects of such increases on poverty depend upon several other factors. Important among these are the characteristics of low-wage workers such as hours of work per week, weeks worked per year, sex, race, and age; family characteristics such as the number of members and the number of earners; and factors relating to the minimum wage provisions, such as the levels of coverage and compliance. While previous researchers suggested how some of these factors might influence the relationship between minimum wage increases and poverty, new empirical evidence and superior data with which to match wages and family income make it possible to simulate these effects much better today. The purpose of this paper is to provide more reliable and up-to-date estimates of the impact of minimum wage increases on the poverty gap and on the number of poor families and to show which

factors are relatively more important barriers to decreasing poverty through minimum wage increases.

The paper is organized as follows. Section II reviews and updates evidence on the factors that inhibit poverty reduction through minimum wage increases. Section III develops a model to simulate the poverty reducing effects of minimum wage increases. Section IV provides an overview of the Current Population Survey (CPS) wage, employment, hours, and poverty status data used for the simulations. Section V simulates ex-ante and ex-post poverty gaps for the families of all workers in the CPS data who earned less than $4.87 per hour and who were in poor or near poor families. The simulations incorporate sensitivity analyses based on alternative estimates of the disemployment effect of minimum wage increases, alternative values of the new minimum wage, and alternative assumptions about coverage and compliance. Section VI provides a summary and policy conclusions.

If coverage and compliance were complete, an increase of the minimum wage to $4.35 would reduce the initial poverty gap of $8 billion, for poor families with workers earning under $4.87 per hour, by about $1 billion and reduce the number of poor families with such low-wage earners by about 200,000. If coverage and compliance were unchanged, the poverty gap would fall by $750 million and the number of working poor families with such low earners would fall by 144,000. Because reductions in average hours of work are not considered, these results should be considered upper bound estimates for the complete coverage/compliance and unchanged coverage/compliance scenarios, respectively. Nevertheless, they represent between 12.7 and 9.0 percent reductions in the poverty gap and between 9.5 and 6.5 percent reductions in the number of poor families with low-wage workers.

SECTION II: PREVIOUS RESULTS

Studies (Gramlich [1976] and Parsons [1980]) of the effects of previous minimum wage increases on the distribution of income suggested that the reduction in poverty would be small because many low-wage workers were members of families with incomes above the poverty line; there were few full-time and full-year workers among the working poor; and disemployment effects of minimum wage increases would reduce the number of employed, low-wage workers or reduce their average hours of work.[1]

Recent data suggest that these reservations about the effectiveness of the minimum wage are still empirically important. For example, Gramlich reported that in 1973 only 7 percent of low-wage teenagers and 23 percent of low-wage adults were in families with incomes below the poverty line.[2] According to Table 1, however, by 1986, 11 percent of low-wage teenagers and just 18 percent of low-wage adults were in families with incomes below the poverty line. Indeed, one recent study concludes that 40 percent of the increased earnings resulting from a minimum wage increase would go to workers in families with incomes at least three times the poverty level (Burkhauser and Finnegan [1987]). Further, Table 2 shows that it would be difficult to decrease poverty by minimum wage increases because low-wage workers, particularly if they were members of poor families, tended to

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1. Most of these studies were summarized in Kohen and Gilroy [1981].

2. Gramlich defined low wages to be below $2.00, the value to which the minimum wage was increased in 1974. His estimate was an approximation because he counted all workers with incomes less than $4,000 as poor. $4000 was slightly higher than the poverty line for a family of four in 1972, but not all workers in Gramlich's sample had families consisting of four members.

work part time, part year or both. Only 23 percent of all workers who earned less than $4.35 per hour were full-time and full-year workers and in poor families the corresponding figure dropped to 14.5 percent. The high correlation between low wages and low hours is not surprising when one observes the demographic characteristics of low-wage workers (Table 3). Of all workers who earned less than $4.35, 77 percent were teenagers or adult females and in poor families a somewhat larger fraction of these workers (79 percent) were either teenagers or adult females.

The results in Table 4 suggest that the low labor supply or underemployment of low-wage workers would not be offset by minimum wage increases benefitting several family members. This is because 74 percent of workers who earned less than $4.35 were the only low-wage workers in their families and 86 percent of workers in poor families who earned less than $4.35 were the only low-wage family members.

Relationships between the total poverty population and the working poor partly determine the extent to which minimum wage increases could significantly reduce the former. For example, some observers doubt that such increases could significantly reduce poverty among non-whites because so much of the poverty among nonwhites, and to a lesser extent among metropolitan area residents, is caused by unemployment and non-labor force participation. Also, Bell [1979] suggested that such increases could not significantly reduce poverty because many low-wage workers — especially females — were "secondary" earners in non-poor families. However, with the growth of poverty among female-headed families, minimum-wage earnings could be the primary sources of non-transfer income for many poor families. Finally, some observers doubt that such increases could significantly reduce poverty in female-headed families, because female

family heads could not be persuaded to take low-wage employment, without expansion of heath insurance and child care. This very plausible argument becomes less significant if there are already many poor women working at low-wage jobs.

Table 5 suggests that these major groups of concern within the poverty population could be helped by minimum wage increases. Nonwhites, metropolitan area families, and women were over-represented among the poor and over-represented among the low-wage working poor. In fact women were only slightly over-represented among the poor population, but they were dramatically over-represented among the low-wage working poor. Thus, there were already substantial numbers of families in which low-wage female earnings contributed to basic needs.

This discussion implicitly assumes that all low-wage workers would benefit from a minimum wage increase. However, workers in establishments not legally covered by the minimum wage provisions would not benefit. By far the largest group of workers in this category is employed by small retail and service establishments. While there are no available data that match household reported wages and establishment size, Table 6 shows that 77 percent of all workers who earned less than $4.35 were employed in the retail trade and service sectors, while in poor families 69 percent of all workers who earned less than this wage were employed in these two sectors. Thus, without a significant expansion in coverage, many working poor families would probably be unaffected by a minimum wage increase.

These inferences about the poverty-reducing effects of minimum wage increases were drawn from income distribution studies or from studies, like Gramlich and Parsons, that approximated poverty by a fixed dollar amount, without controlling for family size. Kelly [1976] was able to make

more precise inferences by matching individual earnings data with (family) poverty status data.

Using CPS data, Kelly found that if the minimum wage were increased from its value of $1.60 in 1973 to $2.00, a 25 percent increase, the poverty gap would have been reduced by 2.6 percent and the number of poor families would have been reduced by 2.5 percent. He found this effect to be "... amazingly small"—especially because his simulation did not account for disemployment effects—and attributed this to several of the factors discussed above. In addition to these substantive explanations, his results may have been affected by several errors.

First, the sample was created by matching data from the March CPS, which included family income and poverty status data, with the May CPS, which included wage data. The results may have been adversely affected by response errors in both surveys and by errors in the matching process. In addition to these errors, the resulting matched sample may not have been representative of the U.S. population. Second, the potential for reporting errors was very great because respondents reported wages in May 1974, the very month and year that an increase in the minimum wage from $1.60 to $2.00 took effect. In response to a question about their "usual wage" survey respondents might have reported the wage they received before or after the effective date of the minimum wage increase. Fortunately, except for the normal reporting errors that occur in all surveys, these errors can now be avoided and simulations of the poverty reducing effects of minimum wage increases can be adjusted for disemployment effects.

SECTION III: A MODEL OF THE POVERTY REDUCING EFFECT

Opponents are quick to point out that increases in the minimum wage lead firms to reduce employment, thereby creating losers and winners among those previously earning less than the new minimum wage. Clearly, the poverty gap will be reduced only if the income gained by workers who keep their jobs exceeds the income lost by workers who lose their jobs. This will occur as long as employment is relatively inelastic with respect to minimum wage increases. [3]

To incorporate this disemployment effect some notation must be introduced. M is the number of poor families with low-wage earners before the minimum wage increase and N is the number of poor families with low-wage earners, thereafter. A reduction in the number of poor families with low-wage earners implies that M>N. P_i is the poverty threshold for the ith poor family and F_i is all income accruing to that family before the minimum wage increase, including all labor income. Ni is the number of working members of the ith ex-post poor family with (ex-ante) wage rates less than the new minimum wage. Mi is the number of working members of the ith ex-ante poor family whose wage rates (ex-ante) are less than the new minimum wage. $E(dL_j)$ is the expected change in the jth person's labor income, including the disemployment effect.

The model ignores reductions in hours of work following a minimum wage increase. A fairly wide consensus has been reached on estimates of

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3. Estimates of the elasticity of employment with respect to minimum wage increases are between -.10 and -.30 for teenagers, and less than -.10 for young adults (Brown, Gilroy and Kohen [1982]).

the reduction in employment following a minimum wage increase (see Brown, Gilroy and Kohen [1982]). However, there are only a few studies (Zucker [1973], Gramlich [1976], Mixon [1975], and Linneman [1982]) that estimate the effect of an increase in the minimum wage on hours worked. These studies generally cover restricted samples (e.g., employment in low-wage industries), employ very different methods, and reach different conclusions. Therefore, the model assumes that disemployment effects of the minimum wage take the form of reductions in employment, but that workers who are employed after the minimum wage increase work the same average hours they did before the minimum wage increase.[4] Then, the expected change in labor income for the jth person is:

(1) $E(dL_j) = H_j [\lambda_j dw_j - (1-\lambda_j) w_j]$

where:

λ_j is the probability that the jth worker is employed after the increase in the minimum wage;

w_j is the jth worker's current wage and dw_j is the increase in the jth worker's wage; and

H_j is annual hours worked by the jth worker.

Assuming that minimum wage increases affect ex-ante poor families only, the ex-post poverty gap :

(2) $G = \Sigma_i^N [(P_i - F_i) - \Sigma_j^{Ni} E(dL_j)]$ will surely be smaller than the ex-ante poverty gap $[\Sigma_i^M (P_i - F_i)]$, if the change in total labor income $(\Sigma_i^N \Sigma_j^{Ni} E(dL_j))$ is positive.[5]

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4. For this reason the simulations over estimate the effect of the minimum wage increase on poverty.

5. The ex-post poverty gap could be smaller than the ex-ante poverty gap even if the change in total labor income were negative but smaller, in absolute value, than the sum of the ex-ante poverty gaps of all families that escape poverty as a result of minimum wage increases.

If workers from near-poor families change employment status, minimum wage increases could create poverty where there was none. To account for this possibility a second term is added to equation (2). This term (P_k-[F_k-Σ_j^{nk} $(1-\lambda_j)H_j$ w_j] > 0) represents the expected poverty gap that occurs when the kth near-poor family becomes poor after a change in the employment status of one or more of its members. If there are n such families with at least one worker earning less than the new minimum wage, the aggregate ex-post poverty gap is:

(3) $G = \Sigma_i^N [(P_i-F_i)-\Sigma_j^{Ni} E(dL_j)] + \Sigma_k^n P_k-[F_k-\Sigma_j^{nk} (1-\lambda_j)H_j w_j]$

To complete the model, expected changes in labor income for members of poor and near-poor families must be estimated. This requires information about the probabilities that workers change their employment status after the minimum wage increase. A crude estimate of this probability can be derived from estimates of the long run elasticity of employment with respect to minimum wage increases (hereafter, the minimum wage employment elasticity).

If all workers were identical the probability (λ) that a worker would move from being employed to being unemployed (or to the out of the labor force status) is related to the minimum wage employment elasticity as follows:

(4) $\lambda = J^1/J^0 = 1 + (dw/w)\varepsilon$, where

J^0 is the number of employees before the minimum wage increase;

J^1 is number still employed after the minimum wage increase;

w represents the wage and dw is the increase in wages, which are identical for all workers; and

ε (≤ 0) is the minimum wage employment elasticity.

Although more complicated assumptions about the probability distribution might be employed, the relationship between the probability of moving out of employment status and the average minimum wage employment elasticity is maintained by the following approximation:

(5) $\lambda_j = 1 + (dw_j/w_j)\varepsilon'$

Substituting equation (5) into equation (2) and rearranging terms gives:

(6) $E(dL_j) = H_j [\{1 + (dw_j/w_j)\varepsilon'\} (dw_j + w_j) - w_j)].$

$= H_j\, dw_j [\ 1 + (1 + (dw_j/w_j))\varepsilon']$

Then substituting equations (5) and (6) into equation (3) gives:

(7) $G = \Sigma_i^N [(P_i - F_i) - \Sigma_j^{Ni} H_j\, dw_j [\ 1 + (1 + (dw_j/w_j))\varepsilon']] +$

$\Sigma_k^n P_k - F_k + \Sigma_j^{nk} H_j\, dw_j\, \varepsilon'$

The approximation represents a compromise in which time series estimates of average minimum wage employment elasticities for teenagers and young adults (i.e., $\varepsilon' = \varepsilon_t$ or $\varepsilon' = \varepsilon_a$), weighted by individual wage data (dw_j and w_j), are substituted for individual probabilities, which cannot be observed. Low and high estimates of minimum wage employment elasticities for workers between 16 and 19 years old and for workers between 20 and 24 years old were obtained from studies reviewed in Brown, Gilroy, and Kohen and applied to teenagers and adults. The low estimates of the teenager and young adult elasticities were -.10 and -.026, respectively. The high estimates were -.30 and -.074, respectively.

While the range of teenager elasticity estimates provide appropriate proxies for ε_t, appropriate proxies for ε_a are quite difficult to obtain. Clearly the most appropriate proxies for ε_t and ε_a are estimates of the minimum wage employment elasticity for low-wage workers. Since most teenagers earned below the proposed minimum wages, minimum wage employment

elasticities for all teenagers come close to this ideal. In contrast, adults who earned these low wages were a small fraction of total adult employment. As a result, estimated elasticities for all adults tend to underestimate the minimum wage employment elasticity for low-wage adult workers, even when these estimated elasticities have a negative sign.[6]

The reason for this tendency is simple. Employers may respond to an increase in the minimum wage by increasing employment of higher quality adult labor and reducing employment of lower quality adult labor. Since wages are positively correlated with labor quality, the percentage reduction in low-wage adult employment could be substantially larger than the percentage reduction in total adult employment.

If estimates of the minimum wage employment elasticity for all adults underestimate the minimum wage employment elasticity for low-wage adults, proxies for latter are needed. Our basic approach is to assume that the minimum wage employment elasticity for low-wage adults of all ages is equal to the corresponding estimates for young adults. Since the range of estimates for young adults was -.026 to -.074, simulations based on this assumption may be overly optimistic. Therefore, two other simulations are made using the low and high values of the teenager elasticities as proxies

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6. Brown, Gilroy and Kohen demonstrate this theoretically when production is assumed to involve substitutable low-wage labor, high wage labor, and a composite non-labor input and minimum wage increases are assumed to have no affect on output or the prices the latter two inputs. The point is also demonstrated empirically by the small number of studies that estimate minimum wage employment elasticities based on samples that include adults over 25 years old. Since these studies do not restrict their samples to low-wage workers, the estimates vary widely. Most of these studies find small or statistically insignificant reductions in adult employment following minimum wage increases, but two studies (Hammermesh [1981] and Boschen and Grossmen [1981]) find that employment rises in response to a minimum wage increase for some groups of adult workers.

for the adult elasticities. While there is no theoretical reason to prefer any one of these assumptions over the others, it is hoped that together they cover the full range of realistic outcomes. If so the true effect of minimum wage increases on poverty will fall within the range of the simulations.

The more pessimistic simulations, involving high values of the teenager and young adult elasticities, are needed because disemployment effects following minimum wage increases and coverage extensions today might be larger than the disemployment effects that followed previous minimum wage increases and coverage extensions (see Kosters [1987]). This is because minimum wage increases during the 1950's and 1960's took place when 50 to 70 percent of private, non-supervisory employment was covered by the minimum wage. As coverage was extended, the minimum wages applied to newly covered workers were set below the minimum wages applied to previously covered workers. Today, however, more than 80 percent of private non-supervisory employment is covered, there is a single minimum wage for all covered workers and, if the minimum wage were increased, the same new minimum wage would probably apply to all workers. Therefore the average wage increases resulting from future minimum wage increases, and from simulated wage increases, would tend to exceed the percentage wage increases in previous periods. With larger percentage wage increases the disemployment effects might also be larger.

In addition to simulations based upon published estimates of the minimum wage employment elasticity, a simulation was made assuming no disemployment effect for teenagers or adults ($\varepsilon_a = \varepsilon_t = 0.00$). In this way our simulations can be compared with Kelly's simulations.

The literature does not seem to justify further demographic disaggregation of the probability of disemployment using estimated demand elasticities. Studies of minimum wage disemployment effects consistently report larger effects for teenagers than for adults. However, differential disemployment effects for other groups of the population are not well established. Among the studies reviewed by Brown, Gilroy and Kohen, for example, some found that black teenagers had higher disemployment effects than white teenagers, other studies did not. Similarly, studies of adult men versus adult women reached mixed conclusions.

A final methodological issue involves treatment of workers presently paid below the minimum wage. Two kinds of workers fit this description: not covered workers and covered workers. The latter are paid below the minimum because their employers fail to comply. The first set of simulations assumes that all workers receive wage increases, even though some are not presently receiving the minimum wage. This assumption is consistent with the historical pattern of gradually universal coverage and treats the issue of enforcement separately from the level at which the minimum wage is set. However, a second set of simulations assumes that if workers are not paid the current minimum, whatever the reason, they would not benefit from minimum wage increases.

SECTION IV: THE DATA

The ex-ante and ex-post poverty gaps are simulated using the 1987 March Current Population Survey. One-quarter of the respondents in this household survey were asked if family members who worked were paid by the hour and if so, what was the hourly wage in 1987. The March CPS data also

includes 1986 data on weekly hours, weeks worked per year and poverty status. Therefore, earnings and poverty status information are combined in the same data set and the matching errors that may have adversely affected Kelly's study do not affect the present results.[7]

The CPS has features that limit the effects of other errors on the results. First, since the CPS is a household survey, rather than establishment survey, the results are not affected by the errors that would occur when establishments fail to report illegal wage payments (Cartensen and Woltman [1979]). Second, since the CPS has reported wage data, the simulated changes in expected earnings are based on wage rates, rather than the quotient of usual weekly earnings and usual weekly hours. Respondents can make one error when reporting a wage rate, but two errors when reporting usual weekly earnings and usual weekly hours.

There are two limitations of the CPS, however. First, the wage data are for 1987, but all other data are for the previous year. Thus, the simulations implicitly assume that wages did not change between the two years. If low-wage employers indexed their wages to the legal minimum, which did not change after 1981, this is a very reasonable assumption. Second, workers who are not covered by the minimum wage should ideally

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7. Although he used the best data that were available, Kelly's sample was based on two different surveys with different selection probabilities for respondents. Therefore, he was (1) unable to determine the appropriate sample weight for each respondent; (2) concerned that the resulting sample was not representative of the U.S. population; and (3) unable to provide estimates of the aggregate ex-ante and ex-post poverty gaps. Since the wage and poverty status data are now available from data in a single survey, the appropriate sample weights can be determined. Indeed, before proceeding with the simulation our sampling procedure was validated. The sampling procedure estimated that there were 532 million workers paid by the hour in 1985. This estimate appears in Smith and Vavrichek [1987]. Thanks are due to Ralph Smith and Roald Euller for advice on the sampling procedure.

have been excluded from the sample, however, the CPS lacks the information needed to determine coverage by the minimum wage provisions. Exemptions to the minimum wage provisions are based upon the industry and occupation of employees and the annual sales volume of employing establishments. The annual sales volume exemptions present a serious problem because they affect retail and service establishments, which employed 76 percent of the workers earning less than $4.35. Since the CPS lacks sales volume information, it is impossible to exclude non-covered workers.

By providing two sets of simulations, the first assuming complete coverage and compliance and the second assuming unchanged compliance and coverage, the simulations partially adapt to this limitation. In the first set of simulations the effect of the minimum wage increases on poverty is biased upward, and in the second set of simulations the effect is bias downward.

SECTION V: RESULTS

Basic Simulations, Special Cases, and Comparisons

The results shown in Table 7 suggest a larger poverty reducing effect of minimum wage increases, accompanied by full coverage and compliance, than was previously reported in the literature. Indeed, only the most pessimistic view of the low-wage adult disemployment effect implies that minimum wage increases would reduce the aggregate poverty gap by less than ten percent.

Reductions in the Poverty Gap. Taking an average of five simulations involving a $4.35 minimum wage and published estimates of teenager and adult disemployment effects, the poverty gap falls from $8 billion to $7 billion, a 12.7 percent reduction. If there were no disemployment effect, the poverty gap would fall by 14.1 percent, a modest increase over simulations involving published estimates of disemployment effects. The increase is small for two reasons. First, there are more low-wage adult than low-wage teenagers and the adults tend to work longer hours and more weeks than the teenagers. Therefore, low-wage adult workers make the largest contributions to the incomes of poor families. For example, in the no disemployment effect simulation, adults accounted for $1.2 billion in additional earnings (87 percent of the total), while teenagers accounted for just $1.8 million.[8] Second, the high and low adult elasticities are very small. In other words, when disemployment effects are included, the largest reductions in employment involve the workers (i.e., teenagers) who make the smallest contributions to family incomes.

The percentage reduction in the poverty gap under the no disemployment effects assumption is more than five times Kelly's simulation, even though the minimum wage increases considered here are only five percentage points larger.[9] Besides the superior data now

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8. Although the sum of additional earnings for teenagers and adults exceeded the reduction in the poverty gap, there was no error. Total additional earnings included the earnings of members of families that would escape poverty after the minimum wage increase. When simulating ex-post poverty gap, however, the earnings of these family members were excluded, because the families would no longer be poor. Therefore, total additional earnings was larger than additional earnings in ex-post poor families and larger than the reduction in the poverty gap.

9. Kelly also simulated the ex-post poverty gap using a number of proposed minimum wages. In the example referred to here, the proposed increase

available, there are substantive reasons that recent minimum wage increases, without reductions in employment, would have larger poverty reducing effects.

If the minimum wage were increased from $3.35 to $4.35 in 1986 it would have about the same affect on the poverty gap of a given poor family as the actual increase from $1.60 to $2.00 in 1974. [10] If the latter increase had taken place in 1973 it would have had a larger affect than the 1986 increase. [11] To see this, consider a family of four with a single full-time and full-year worker who was paid the minimum wage. In 1986, the poverty line for such a family was 61 percent above this worker's earnings, leaving a poverty gap of $4,235. If the minimum wage were increased to $4.35 in 1986, this family's poverty gap would be reduced to $2,155, a 49 percent drop.

Now consider what happened to such a family when the minimum wage was actually increased in 1974. In addition to being the year most

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in the minimum wage was from $1.60 to $2.00, a 25 percent increase, and the poverty gap fell by 2.5 percent. The present simulation involved an increase in the minimum wage from $3.35 to $4.35, a 30 percent increase, and the poverty gap fell by 14.1 percent.

10. This assumes that wage increases for low-wage workers are due to increases in the minimum wage, rather than changes in labor productivity and competitive forces in the labor market.

11. As Kelly points out, CPS respondents were asked about "normal wage rates "usual wage rates" in May 1974, the very month and year that the increase in the minimum wage took effect. While poverty status was determined using 1973 income, one cannot be sure if reported wages were for the recent past (1973) or the present and nearby future (1974). To compare the results presented here with Kelly's results, one should examine what would have happened if the minimum wage had been increased in 1973 as well as what did happen when it was actually increased in 1974.

relevant to Kelly's simulations, 1974 was the last time the minimum wage was increased after being held constant for more than five years. At the $1.60 minimum wage, which had been fixed since 1968, the 1974 and 1973 poverty lines were 51 and 36 percent above this worker's earnings, respectively. Thus, the poverty gap for the family was $1,710 in 1974 and $1,212 in 1973. When the 1974 minimum was increased to $2.00, the family's poverty gap fell to $878, also a 49 percent drop. Had the minimum wage increase occurred a year earlier, the poverty gap would have fallen to $380, a 69 percent drop.

There are two important reasons that recent minimum wage increases would result in larger aggregate poverty reduction, even though they would have the same (or smaller) affects on the poverty gap of individual families as minimum wage increases between 1973 and 1974. First, there has been a substantial increases in the number of low-wage workers. This increase is partly responsible for slower productivity growth and the decline in real average hourly earnings that has occurred more or less consistently since 1973. It is at least partly attributed to the increasing share of younger workers in total employment (Minarick [1988]) and has resulted in a substantial increase in the total number of workers with incomes below the poverty line and in the number of full-time and full-year workers with incomes below the poverty line (Shapiro [1987]). Second, there has been a general reduction in the size of families over the past 13 years, which affected low-income families as well. As a result, similar percentage increases in wages would cause greater increases in the ratio of earnings to needs in 1986 low-income families as compared with 1973-4 low-income families. This, in turn, would cause

the reduction in the 1986 aggregate poverty gap to exceed the reduction in the 1973-4 aggregate poverty gap.

While the no disemployment effects simulation is similar to those based on published estimates of disemployment effects, the pessimistic simulation differs substantially. If low-wage adults and teenagers had the assumed upper bound elasticity for teenagers (-.30), the ex-post poverty gap would be $7.3 billion, just 8 percent lower than the ex-ante poverty gap. This result is related to a previous observation. Low-wage adults make the largest contributions to the incomes of low-income families. If, like teenagers, their employment probabilities were very responsive to minimum wage increases, the poverty gap would fall, but the reduction would be extremely small. It is important to observe, however, that if the adult elasticity were equal to the assumed lower bound for teenagers (-.10), the ex-post poverty gap would be 12 percent lower than the ex-ante poverty gap. This is quite similar to the simulations reported earlier.

Reductions in Poor Families and Changes in Incomes. In addition to the reduction in the aggregate poverty gap, the reduction in the number of poor families and the increase in income per family are also important. A decline in the aggregate poverty gap may occur because some families are no longer poor, but this says little about the well-being of those families that remain in poverty. The well- being of poor families is a critical concern because, on average, the incomes of poor families fell short of the poverty line by $3,581 in 1986.

If the minimum wage were $4.35, an average of the five simulations involving published disemployment effects yields almost 200,000 fewer

working poor families and a $147 reduction in the poverty gap per family. These represent 9.0 percent and 4.1 percent reductions, respectively. Thus, in percentage terms, the aggregate poverty gap falls by more than either the number of poor families with low-wage workers or the poverty gap per family. This is a measurement anomaly caused by moving many families with small poverty gaps out of poverty, and therefore, out of the population from which the aggregate poverty gap is measured. To measure the total benefit, however, one should count the increased income that would accrue to all poor and potentially poor families, those that would escape poverty and those that would not. These results are shown in Table 8. Over the five simulations, the average increase in income for poor families with low-wage workers is $591.95. This represents a 10.6 percent increase in average family income, a much larger benefit than was suggested by the reduction in the poverty gap per family.

Like the aggregate poverty gap, the reduction in the number of poor families with low-wage workers and the increase in income per family when no disemployment effect is assumed, are similar to corresponding simulations based on published disemployment effects. In the most pessimistic simulation, however, the number of poor families with low-wage workers falls by a modest 1.3 percent and income per family rises by 5.2 percent.

Sensitivity Analyses

To help determine the implications of the forgoing simulations for the poverty reducing effects of minimum wage increases, it is important to examine how sensitive the results are to alternative assumptions about

the minimum wage employment elasticity, the level of the new minimum wage, and coverage and compliance. This section examines these three sources of variations in the simulations.

Changing Elasticity Assumptions. The poverty reducing effects of minimum wage increases are fairly insensitive to alternative published estimates of the teenager and adult elasticities (see Appendix Table A). Thus, if the minimum wage were increased to $4.35 and low-teenager and adult employment elasticities are assumed, the poverty gap would fall to $6.87 billion. If, on the other hand, the high adult elasticity is assumed, which is 184 percent higher than the low adult elasticity, the ex-post poverty gap would be $6.93 billion. Similarly, even though the high teenager elasticity is 200 percent higher than the low teenager elasticity, the ex-post poverty gap is $6.90 billion when the former is assumed and $6.86 billion when the latter is assumed. Reductions in the number of poor families and increases in income per family are also fairly constant across various published elasticity assumptions.

Changing the Value of the New Minimum Wage. The second and third panels of Tables 7 show that the poverty reducing effects of minimum wage increases are quite sensitive to alternative values of the minimum wage. If the minimum wage were $4.65, a 39 percent increase over the current minimum wage, the reduction in the poverty gap would be 17.5 percent; the reduction in the number of poor families with low-wage workers would be 11.8 percent; and the increase in income per family would be 13.68 percent. A 45 percent increase in the minimum wage to $4.87, would reduce

the poverty gap and the number of poor families by 21 percent and 16 percent, respectively, while income per poor family would increase by 16.9 percent. Indeed, even in the most pessimistic simulation ($\varepsilon_a = \varepsilon_t = -.30$), a $4.87 minimum wage would reduce the poverty gap by over 13 percent, a result very similar to the reduction in the poverty gap using a $4.35 minimum and more optimistic estimates of disemployment effects.

Changing Assumptions about Coverage and Compliance. Tables 9 and 10 simulate the poverty reducing effects of minimum wage increases if coverage and compliance are unchanged. That is, workers are assumed to benefit from wage increases only if they are already paid at least $3.35. It is important to consider this possibility for two reasons.

First, the simulations have thus far assumed that all workers with wages less than the proposed minimum wages receive wage increases when these proposed minimum wages take effect. This assumption may be quite unrealistic because many workers who earn less than $3.35 are not covered by the minimum wage law and coverage extensions have not been included in recent bills that increase the level of the minimum wage. Without such extensions, these workers would not benefit from minimum wage increases. Other workers, who are covered but paid sub-minimum wages, are victims of minimum wage violations. These violations are likely to continue at higher minimum wages. Second, the previous simulations involved average percentage wage increases much larger than those that took place historically. If Kosters is right, the disemployment effects associated with such high wage increases are underestimated by published estimates of minimum wage employment elasticities from which the simulations are were derived. By restricting wage increases to workers already paid at

least $3.35, however, the following simulations involve smaller average percentage wage increases. As a result, the associated disemployment effects are less likely to be underestimated.

The results are shown in Table 9. While, the reductions in poverty are smaller (by three to four percentage points) when coverage and compliance are unchanged, poverty is noticeably reduced. Again, taking an average of the five simulations based on a $4.35 minimum wage and published estimates of disemployment effects, the poverty gap falls by just over $750 million, the number of poor families with low-wage workers falls by about 144 thousand, and income per family increases by $387.90. These represent 9.5 percent and 6.5 percent reductions in the poverty gap and the number of poor families, and a 7.0 percent increase in income per family. Thus, a substantial fraction (25 percent) of the reduction in the aggregate poverty gap assuming full-coverage and compliance is due to increased coverage and compliance.

If anything, these simulations seem less sensitive to variations in elasticities within the published range and as sensitive as the previous simulations to variations in proposed minimum wages. This is to be expected because all workers involved these simulations make $3.35 or more, and therefore, the percentage wage increases involved in these simulations are smaller

An interesting feature of the simulations is that coverage and compliance changes are relatively neutral across workers by shares of additional family income. For example, in the simulations assuming no change in compliance or coverage a ranking of family members by shares of additional family income showed : prime aged adults (64 percent), young adults (25 percent) , teenagers (10.3 percent) , and the elderly (1

percent). These shares are very similar to the shares of additional family income in the simulations that assumed full compliance and coverage. If the workers who make the smallest contributions to family income (e.g., teenagers) are more likely to work for the lowest wages, minimum wage increases, assuming no changes in compliance or coverage, would have even smaller poverty reducing effects.

SECTION VI: SUMMARY AND CONCLUSION

This paper develops a model for simulating the poverty reducing effects of minimum wage increases using wage, employment, hours, and poverty status data from the March CPS. Because employee wage and hours data can be matched with (family) poverty status data, the working poor can be distinguished from other workers earning the minimum wage or less, and therefore, the effects of minimum wage increases on poverty can be distinguished from the effects on the distribution of income. A poverty gap is computed for the families of all workers in a supplement to the March CPS who earned less than $4.87 per hour and who were in poor or near-poor families. Then, assuming alternative values for the minimum wage employment elasticity and alternative minimum wage increases, the ex-post poverty gap and number of poor families are simulated.

An increase of the minimum wage to $4.35 is found to have a larger poverty reducing effect than previous research suggests. If accompanied by full coverage and compliance such an increase would reduce the initial poverty gap of $8 billion by about $1 billion dollars and the number of poor families with low-wage workers would fall by about 200,000. These

estimates, which should be considered upper bounds, represent a 13 percent reduction in the poverty gap and a 9 percent reduction in the number of poor families. The poverty reducing effects would be three to four percentage points higher if the minimum wage were increased to $4.65 and three to four percentage points lower if coverage and compliance were unchanged. Despite the controversy over the role of disemployment effects, the poverty reducing effects of minimum wage increases are surprisingly insensitive to alternative assumptions about the minimum wage employment elasticity within the range of published estimates. This is because disemployment effects fall heavily on teenagers, who make the smallest contributions to family incomes. If low-wage adult workers had the same high employment elasticities as teenagers, however, these poverty reducing effects would be much smaller.

While these results are encouraging to proponents of minimum wage increases, they must be interpreted cautiously. The results are encouraging because the poverty reducing effects of minimum wage increases are very sensitive to factors that policy makers can control (i.e., the levels of the minimum wage, coverage, and compliance) and fairly insensitive to elasticity assumptions within the range of published estimates. This, however, is not a prescription for raising the minimum up to its highest feasible level and extending coverage universally. Such a policy would require percentage increases in wages well above the historical experience. Considering uncertainties about the minimum wage employment elasticity for low-wage adult workers, the resulting disemployment effects could be as large or larger than those assumed in the most pessimistic simulation, and therefore, the poverty reducing effects could be quite small.

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TABLE 1

Workers Paid up to $4.34 per Hour by Age and Income Relative to the Poverty Line

Characteristic	Number of Workers (In thousands)	Percent of Age Group
Teenagers (16–19 years)		
Poor	386	10.6
Near poor[a]	120	3.3
All others[b]	3,147	86.1
Total	3,654	100.0
Adults		
Poor	1,713	18.3
Near poor[a]	669	7.2
All others[b]	6,972	74.5
Total	9,354	100.0

SOURCE: Unpublished tabulations by the Urban Institute based on Current Population Survey, March 1987.

a. Near poor includes workers with family incomes of 100 to 124 percent of the poverty line.

b. All others includes all those with family incomes above 124 percent of the poverty line.

TABLE 2

Workers Paid up to $4.34 per Hour by Employment Status and Income Relative to the Poverty Line

Income and Employment Status	Number of Workers (In thousands)	Percent of Income Group
Total Population		
Full-time, full year	3,037	23.4
Other	9,971	76.6
Total	13,008	100.0
Poor		
Full-time, full year	305	14.5
Other	1,794	85.5
Total	2,099	100.0
Near poor		
Full-time, full year	232	29.4
Other	558	70.6
Total	790	100.0
All others		
Full-time, full year	2,500	24.7
Other	7,619	75.3
Total	10,119	100.0

SOURCE: See table 1.

TABLE 3

Workers Paid up to $4.34 per Hour by Age, Sex and Income Relative to the Poverty Line

Age, Sex and Income Status	Number of Workers (In thousands)	Percent of Income Group
Total Population		
Teenagers (16-19 years)		
Female	1,912	14.7
Male	1,741	13.4
Adults		
Female	6,362	48.9
Male	2,992	23.0
Total	13,008	100.0
Poor		
Teenagers (16-19 years)		
Female	173	8.2
Male	213	10.2
Adults		
Female	1,268	60.4
Male	445	21.2
Total	2,099	100.0
Near poor		
Teenagers (16-19 years)		
Female	63	8.0
Male	57	7.2
Adults		
Female	477	60.4
Male	193	24.4
Total	790	100.0

SOURCE: See table 1.

TABLE 4

Workers Paid up to $4.34 per Hour by Number of Low Wage Family Members and Income Relative to the Poverty Line

Income Status	Number of Workers (In thousands)	Percent of Total Within Income Group
Total Population		
One low wage family member	9,680	74.4
Two or more low wage family members	3,328	25.6
Total	13,008	100.0
Poor		
One low wage family member	1,809	86.2
Two or more low wage family members	290	13.8
Total	2,099	100.0
Near poor		
One low wage family member	576	72.9
Two or more low wage family members	214	27.1
Total	790	100.0
All others		
One low wage family member	7,295	72.1
Two or more low wage family members	2,824	27.9
Total	10,119	100.0

SOURCE: See table 1.

TABLE 5

Number of Total Population, Poor, and Low-Wage Working Poor Paid up to $4.34 per Hour by Race, Sex, and Metropolitan Residence

Characteristic	Number in Thousands			Distribution of:		
	Population (1985)	Poor (1985)	Low-Wage Working Poor (1987)	Total	Poor	Low-Wage Working Poor
Race						
White	200,918	22,860	1,445	81.2	61.7	68.8
Nonwhite	46,560	14,164	655	18.8	38.3	31.2
Residence						
In SMSA	183,097	23,275	1,487	77.4	70.4	70.8
Not in SMSA	53,497	9,789	613	22.6	29.6	29.2
Sex						
Male	114,970	14,140	658	48.6	42.8	31.3
Female	121,624	18,923	1,441	51.4	57.2	68.7
Total	236,594	33,064	2,099	100.0	100.0	100.0

SOURCES: See table 1 and U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 155, Characteristics of Population Below Poverty Level: 1985, U.S. Government Printing Office, Washington, D.C., 1987.

TABLE 6

Workers Earning up to $4.34 per Hour and Covered by the Minimum Wage by Industrial Sector

Industry	Number of Workers (In thousands)	Workers as a Percent of Total	Workers Covered by the Minimum Wage (Percentage)
Agriculture, fishing and forestry	238	1.8	36.5
Mining	32	0.2	86.3
Construction	217	1.7	89.5
Manufacturing	1,392	10.7	85.9
Transportation, communication and utilities	173	1.3	88.0
Wholesale trade	272	2.1	68.4
Retail trade	6,093	46.8	76.0
Finance, insurance and real estate	261	2.0	64.8
Private household services	427	3.3	68.1
All services except private household services	3,747	28.8	59.1
Public administration	127	1.0	60.3
Industry not reported	28	0.2	NA
Total	13,008	100.0	71.2

SOURCES: See table 1 and Minimum Wage and Maximum Hours Standards Under the Fair Labor Standards Act, U.S. Department of Labor, Employment Standards Administration, 1986, table 8.

NA = Not applicable.

TABLE 7

Effects of Changes in the Minimum Wage, with Full Coverage and Compliance, on the Poverty Gap, Number of Poor Families, and the Poverty Gap per Family under Varying Assumptions about Teenage and Adult Employment Elasticities

Wage and Employment Elasticity Levels	Ex-Post Poverty Gap		Ex-Post Number of Poor Families		Ex-Post Poverty Gap per Family	
	Amount in Millions of Dollars	Percent Reduction	Number in Millions	Percent Reduction	Family Average	Percent Reduction
3.35[a]	7,940	...	2.218	...	3,581	...
4.35						
Zero employment elasticities	6,820	14.1	1.966	11.3	3,468	3.1
Published employment elasticities[b]	6,932	12.7	2.019	9.0	3,434	4.1
High employment elasticities	7,293	8.1	2.189	1.3	3,332	6.9
4.65						
Zero employment elasticities	6,401	19.4	1.868	15.7	3,426	4.3
Published employment elasticities[b]	6,550	17.5	1.955	11.8	3,350	6.4
High employment elasticities	7,055	11.1	2.186	1.4	3,227	9.9
4.87						
Zero employment elasticities	6,095	23.2	1.748	21.2	3,486	2.6
Published employment elasticities[b]	6,267	21.1	1.872	15.6	3,349	6.5
High employment elasticities	6,888	13.2	2.201	0.8	3,130	12.6

SOURCE: See table 1.

... Not applicable.

a. The current (1987) level of minimum wage, poverty gap, number of poor families, and poverty gap per family.

b. An average of all simulations within the wage level, except the first and last, in Appendix, table A.

TABLE 8

Increases in Income for Affected[a] Families as a Result of Changes in the Minimum Wage, with Full Coverage and Compliance

Wage and Employment Elasticity Levels	Net Increased Income[b] Per Affected Family	Ratio of Net Increased Income to Ex-ante Income of Affected Families
4.35		
Zero employment elasticities	631.93	11.38
Published employment elasticities	545.23	9.76
High employment elasticities	293.97	5.20
4.65		
Zero employment elasticities	892.86	16.08
Published employment elasticities	765.96	13.68
High employment elasticities	394.78	6.85
4.87		
Zero employment elasticities	1101.54	19.84
Published employment elasticities	941.38	16.79
High employment elasticities	458.61	7.86

SOURCE: See table 1.

a. Affected families are ex-ante poor families plus ex-ante near poor families that become poor as a result of a job loss by one or more family members.

b. Net increased income is the additional income earned by ex-ante poor families net the reduction in income of ex-ante near poor families that become poor.

TABLE 9

Effects of Changes in the Minimum Wage, with Compliance and Coverage Unchanged, on the Poverty Gap, Number of Poor Families, and the Average Poverty Gap under Varying Assumptions about Employment Elasticities

Wage and Employment Elasticity Levels	Ex-Post Poverty Gap		Ex-Post Number of Poor Families		Ex-Post Poverty Gap per Family	
	Amount in Millions of Dollars	Percent Reduction	Number in Millions	Percent Reduction	Family Average	Percent Reduction
3.35[a]	7,940	...	2.218	...	3,580	...
4.35						
Zero employment elasticities	7,114	10.4	2.042	7.9	3,484	2.7
Published employment elasticities[b]	7,187	9.5	2.074	6.5	3,466	3.2
High employment elasticities	7,408	6.7	2.180	1.7	3,399	5.1
4.65						
Zero employment elasticities	6,722	15.3	1.962	11.6	3,426	4.3
Published employment elasticities[b]	6,827	14.0	2.012	9.3	3,394	5.2
High employment elasticities	7,166	9.7	2.170	2.2	3,302	7.8
4.87						
Zero employment elasticities	6,429	19.0	1.852	16.5	3,472	3.0
Published employment elasticities[b]	6,558	17.4	1.947	12.2	3,368	5.9
High employment elasticities	6,990	12.0	2.186	1.5	3,198	10.7

SOURCE: See table 1.

... Not applicable.

a. The current (1987) level of minimum wage, poverty gap, number of poor families, and poverty gap per family.

b. An average of all simulations within the wage level, except the first and last, in Appendix, table B.

TABLE 10

Increases in Income for Affected[a] Families as a Result of Changes in the Minimum Wage, with Coverage and Compliance Unchanged

Wage and Employment Elasticity Levels	Net Increased Income[b] Per Affected Family	Ratio of Net Increased Income to Ex-ante Income of Affected Families
4.35		
Zero employment elasticities	434.30	7.82
Published employment elasticities	387.90	6.96
High employment elasticities	251.31	4.47
4.65		
Zero employment elasticities	664.88	11.98
Published employment elasticities	588.40	10.54
High employment elasticities	363.01	6.34
4.87		
Zero employment elasticities	851.30	15.34
Published employment elasticities	749.06	13.40
High employment elasticities	433.89	7.50

SOURCE: See table 1.

a. Affected families are ex-ante poor families plus ex-ante near poor families that become poor as a result of a job loss by one or more family members.

b. Net increased income is the additional income earned by ex-ante poor families net the reduction in income of ex-ante near poor families that become poor.

APPENDIX

TABLE A

Sensitivity Analysis of the Effects of Changes in the Minimum Wage, with Full Coverage and Compliance, on the Poverty Gap, Number of Poor Families, and the Poverty Gap per Family

Wage Level	Employment Elasticity of		Ex-Post Poverty Gap		Ex-Post Number of Poor Families		Ex-Post Poverty Gap per Family	
	Teenagers	Adults	Amount in Millions of Dollars	Percent Reduction	Number in Millions	Percent Reduction	Family Average	Percent Reduction
3.35[a]	...	...	7,940	...	2.218	...	3,581	...
4.35	.000	.000	6,820	14.1	1.966	11.3	3,468	3.1
	-.100	-.026	6,865	13.5	1.983	10.6	3,461	3.3
	-.100	-.074	6,925	12.8	2.022	8.8	3,425	4.3
	-.300	-.026	6,905	13.0	2.001	9.8	3,451	3.6
	-.300	-.074	6,965	12.3	2.039	8.0	3,415	4.6
	-.300	-.100	6,999	11.9	2.049	7.6	3,417	4.6
	-.300	-.300	7,293	8.1	2.189	1.3	3,332	6.9
4.65	.000	.000	6,401	19.4	1.868	15.7	3,426	4.3
	-.100	-.026	6,461	18.6	1.910	13.8	3,382	5.5
	-.100	-.074	6,542	17.6	1.953	11.9	3,350	6.4
	-.300	-.026	6,513	18.0	1.935	12.7	3,366	6.0
	-.300	-.074	6,594	16.9	1.977	10.8	3,335	6.9
	-.300	-.100	6,639	16.4	2.001	9.8	3,319	7.3
	-.300	-.300	7,055	11.1	2.186	1.4	3,227	9.9
4.87	.000	.000	6,095	23.2	1.748	21.2	3,486	2.6
	-.100	-.026	6,162	22.4	1.815	18.1	3,394	5.2
	-.100	-.074	6,257	21.2	1.886	14.9	3,316	7.4
	-.300	-.026	6,224	21.6	1.829	17.5	3,404	4.9
	-.300	-.074	6,319	20.4	1.900	14.3	3,327	7.1
	-.300	-.100	6,375	19.7	1.929	13.0	3,305	7.7
	-.300	-.300	6,888	13.2	2.201	0.8	3,130	12.6

SOURCE: See table 1.

... Not applicable.

a. The current (1987) level of minimum wage, poverty gap, number of poor families, and poverty gap per family.

TABLE B

Sensitivity Analysis of the Effects of Changes in the Minimum Wage, with Coverage and Compliance Unchanged, on the Poverty Gap, Number of Poor Families, and the Poverty Gap per Family

Wage Level	Employment Elasticity of:		Ex-Post Poverty Gap		Ex-Post Number of Poor Families		Ex-Post Poverty Gap per Family	
	Teenagers	Adults	Amount in Millions of Dollars	Percent Reduction	Number in Millions	Percent Reduction	Family Average	Percent Reduction
3.35[a]	...	...	7,940	...	2.218	...	3,580	...
4.35	.000	.000	7,114	10.4	2.042	7.9	3,484	2.7
	-.100	-.026	7,145	10.0	2.052	7.5	3,482	2.7
	-.100	-.074	7,183	9.5	2.085	6.0	3,446	3.8
	-.300	-.026	7,169	9.7	2.052	7.5	3,494	2.4
	-.300	-.074	7,207	9.2	2.085	6.0	3,457	3.4
	-.300	-.100	7,229	9.0	2.094	5.6	3,452	3.6
	-.300	-.300	7,408	6.7	2.180	1.7	3,399	5.1
4.65	.000	.000	6,722	15.3	1.962	11.6	3,426	4.3
	-.100	-.026	6,767	14.8	1.979	10.8	3,419	4.5
	-.100	-.074	6,823	14.1	2.022	8.9	3,375	5.7
	-.300	-.026	6,802	14.3	1.986	10.5	3,425	4.3
	-.300	-.074	6,857	13.6	2.028	8.6	3,381	5.6
	-.300	-.100	6,889	13.2	2.044	7.8	3,369	5.9
	-.300	-.300	7,166	9.7	2.170	2.2	3,302	7.8
4.87	.000	.000	6,429	19.0	1.852	16.5	3,472	3.0
	-.100	-.026	6,482	18.4	1.907	14.0	3,398	5.1
	-.100	-.074	6,552	17.5	1.962	11.5	3,340	6.7
	-.300	-.026	6,524	17.8	1.914	13.7	3,408	4.8
	-.300	-.074	6,595	16.9	1.969	11.2	3,349	6.4
	-.300	-.100	6,635	16.4	1.984	10.5	3,344	6.6
	-.300	-.300	6,990	12.0	2.186	1.5	3,198	10.7

SOURCE: See table 1.

... Not applicable.

a. The current (1987) level of minimum wage, poverty gap, number of poor families, and poverty gap per family.